WHAT IS CLAIMED IS:

1. A graft copolymer comprising an polymer backbone which has been grafted by reacting the polymer backbone with a reactant selected from the group consisting of N-p-diphenylamine,1,2,3,6-tetrahydrophthalimide; 4-anilinophenyl methacrylamide; 4-anilinophenyl maleimide; 4-anilinophenyl itaconamide; acrylate and methacrylate esters of 4-hydroxydiphenylamine; the reaction product of p-aminodiphenylamine or p-alkylaminodiphenylamine with glycidyl methacrylate; the reaction product of p-aminodiphenylamine with isobutyraldehyde, derivatives of p-hydroxydiphenylamine; derivatives of phenothiazine; vinylogous derivatives of diphenylamine; and mixtures thereof.

2. The copolymer of claim 1, wherein the polymer backbone is selected from the group consisting of olefin polymers; diene polymers, vinyl polymers and vinylidene polymers.

3. The copolymer of claim 2, wherein the polymer backbone comprises an olefin polymer.

4. The copolymer of claim 3, wherein the polymer backbone comprises an ethylene-olefin copolymer.

5. The copolymer of claim 1, wherein the backbone comprises an ethylene-propylene copolymer and wherein the reactant is selected from the group consisting of N-p-diphenylamine,1,2,3,6-tetrahydrophthalimide; 4-anilinophenyl methacrylamide; and mixtures thereof.

6. The copolymer of claim 1, wherein the polymer backbone comprises a styrene-isoprene copolymer.

7. A lubricating oil composition comprising a base oil mixed with the graft copolymer of claim 1.

8. The oil composition of claim 7, wherein the graft copolymer comprises from 2 weight percent to about 18 weight percent of the oil composition.

9. The oil composition of claim 7, wherein the base oil is selected from the group consisting of natural lubricating oils, synthetic lubricating oils, animal oils, vegetable oils, castor oil, lard oil, liquid petroleum oils, hydrorefined, solvent-treated or acid-treated mineral lubricating oils of the paraffinic, naphthenic and mixed paraffinic-naphthenic types, oils of lubricating viscosity derived from coal or shale, poly-alpha-olefins, alkylated aromatics, alkylene oxide polymers, interpolymers, copolymers and derivatives thereof where the terminal hydroxyl groups have been modified by esterification or etherification, esters of dicarboxylic acids, and silicon oils, and mixtures thereof.

10. The oil composition of claim 7, wherein the lubricating oil composition further comprises an additive selected from the group consisting of zinc dialkyl dithiophosphates, friction modifiers, corrosion inhibitors, extreme pressure agents, antioxidants, defoamants, surfactants, detergents, and pour point depressants.

11. An engine lubricated with an oil composition comprising the graft copolymer of claim 1.

12. The engine of claim 11, wherein the engine is selected from the group consisting of automotive engines, heavy and light duty truck engines, gasoline combustion engines, diesel engines, hybrid Internal Combustion/electric engines.

13. The engine of claim 11, wherein the engine comprises an exhaust gas recirculation system, whereby exhaust gases comprising soot generated in the combustion in the engine of fuel contact a lubricating oil used to lubricate said engine.

14. The engine of claim 11, wherein the graft copolymer comprises a viscosity index improver and a soot dispersant.

15. The engine of claim 11, wherein the graft copolymer comprises from 2 weight percent to about 18 weight percent of the oil composition.

16. The engine of claim 11, wherein the engine is cooled by the circulation of a material selected from the group consisting of water, a water/hydrocarbon mix, water/glycol mix, air, and gas.

17. The engine of claim 11, wherein the lubricating oil passes the Mack T-11 test at a viscosity increase of less than 8 cSt at 100° C at a soot level of up to 6.09%m in the Mack T-11 test.

18. The engine of claim 11, wherein the lubricating oil has a viscosity increase of less than 10 cSt at 100 °C and up to 6.0%m soot in the Mack T-11 test.

19. A method of reducing the soot-induced thickening of a lubricating oil used to lubricate a cooled exhaust gas recirculating engine in which soot accumulates in the oil, said method comprising lubricating the engine with a lubricating oil comprising a base oil and a sufficient amount of a dispersant viscosity index improver comprising the graft copolymer of claim 1.

20. A method of improving fuel economy of a vehicle having a cooled exhaust gas recirculation engine, wherein said method comprises adding to and operating in the crankcase of said vehicle a lubricating oil composition containing a sufficient amount of the graft copolymer of claim 1.

21. A method of improving fuel economy durability of a vehicle having a cooled exhaust gas recirculation engine, wherein said method comprises adding to and operating in the crankcase of said vehicle a lubricating oil composition containing a sufficient amount of the graft copolymer of claim 1.

22. A method of simultaneously passing the M-11 EGR test, T-10 test (ASTM D4485 classification for API C1-4 oils), and the Mack T-11 in cooled EGR engine, said method comprising adding to and operating in the crankcase of the engine a

lubricating oil composition containing a sufficient amount of the graft copolymer of claim 1.

23. A method to give superior oil sludge performance in a vehicle with a cooled EGR engine, said method comprising adding to and operating in the crankcase of the vehicle a lubricating oil composition containing a sufficient amount of the graft copolymer of claim 1, whereby the oil sludge performance is superior to the oil sludge performance in a cooled EGR engine of an oil without the graft copolymer of claim 1.

24. A method to give superior wear protection from soot in a vehicle equipped with a cooled EGR engine, said method comprising adding to and operating in the crankcase of the engine a lubricating oil composition containing a sufficient amount of a dispersant viscosity index improver comprising the graft copolymer of claim 1, whereby the wear protection from soot is superior to the wear protection from soot in a cooled EGR engine lubricated with an oil without the graft ethylene-olefin copolymer of claim 1.

25. A method to extend the service time between oil drains in a vehicle equipped with an exhaust gas recirculation engine up to about 60,000 miles by the addition to a lubricating oil in the engine of a sufficient amount of the graft copolymer of claim 1.

26. A process of making a graft copolymer comprising grafting a reactant selected from the group consisting of N-p-diphenylamine,1,2,3,6-tetrahydrophthalimide; 4-anilinophenyl methacrylamide; 4-anilinophenyl maleimide; 4-anilinophenyl itaconamide; acrylate and methacrylate esters of 4-hydroxydiphenylamine; the reaction product of p-aminodiphenylamine or p-alkylaminodiphenylamine with glycidyl methacrylate; the reaction product of p-aminodiphenylamine with isobutyraldehyde, derivatives of p-hydroxydiphenylamine; derivatives of phenothiazine; vinylogous derivatives of diphenylamine; and mixtures thereof onto a polymer backbone.

27. The process of claim 26, wherein the grafting is carried out in solution.

28. The process of claim 26, wherein the grafting is carried out in the presence of a catalyst.

29. The process of claim 28, wherein the catalyst comprises a peroxide catalyst.

30. The process of claim 26, wherein the grafting is carried out in bulk in a device selected from the group consisting of an extruder and an intensive mixing device.

31. The process of claim 26, wherein the polymer backbone is selected from the group consisting of olefin polymers; diene polymers, vinyl polymers and vinylidene polymers.

32. The process of claim 26, wherein the polymer backbone comprises a copolymer of ethylene, at least one C_3 to C_{23} alpha-olefin, and optionally a non-conjugated diene or triene.